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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/830,076	04/23/2004	Jac-seong Shim	1793.1214	7669

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EXAMINER

GUPTA, PARUL H

ART UNIT	PAPER NUMBER
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2627

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/830,076	Applicant(s) SHIM ET AL.	
	Examiner Parul Gupta	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
4a) Of the above claim(s) 1-10 and 37-44 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-20 and 27-31 is/are allowed.
- 6) ☒ Claim(s) 11, 12, 21-23, 45 and 46 is/are rejected.
- 7) ☒ Claim(s) 13-16 and 24-26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-46 are pending for examination as interpreted by the examiner. The arguments and amendment filed on 10/5/07 were considered.

Election/Restrictions

2. Applicant's election with traverse of claims 11-36 in the reply filed on 4/5/07 is acknowledged. The traversal is on the ground(s) that the different classifications for the product and method claims is not conclusive on the question of restriction. This is not found persuasive because the groups relate to subcombinations usable together that are patentably distinct for the reasons of record and examination of all claims would be a serious burden to the examiner, as evidenced by the different classification.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-10 and 37-44 were withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 4/5/07.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 11, 12, 21-23, and 45-46 are rejected under 35 U.S.C. 103(a) as being anticipated by Nagasawa et al., US Patent 5,848,050 in view of Gill et al., US Patent 6,937,412.

Regarding claim 11, Nagasawa et al. teaches a disc type recording medium for recording information by forming a plurality of disc tracks, the medium comprising: at least two first sections in which the disc tracks are formed using a first function having a first frequency; and at least one second section in which the disc tracks are formed using a second function having a second frequency, wherein the second section is positioned between the first sections. Nagasawa et al. does not but Gill et al. teaches that the two frequencies on the disc are different (column 1, line 60 to column 2, line 5). It would have been obvious to one of ordinary skill in the art at the time of the invention to use two separate frequencies. The motivation would be to easily encode the data written (column 1, line 67 to column 2, line 1).

Regarding claim 21, Nagasawa et al. teaches a method of forming disc tracks for recording information, comprising: forming disc tracks using a first function in a plurality of first sections of a disc type recording medium; and forming disc tracks using a second function in a second section of the disc type recording medium, wherein the first function and the second function have frequencies, and the second section is positioned between the first sections. Nagasawa et al. does not but Gill et al. teaches that the two frequencies on the disc are different (column 1, line 60 to column 2, line 5). It would have been obvious to one of ordinary skill in the art at the time of the invention to use

two separate frequencies. The motivation would be to easily encode the data written (column 1, line 67 to column 2, line 1).

Regarding claims 12 and 22-23, Nagasawa et al. teaches the medium wherein the first sections are used for a PLL (column 13, lines 39-41) and the first function has a single frequency. In column 3, lines 23-26, Nagasawa et al. teaches that the frequency of the wobble signal is kept constant, meaning that there is only one frequency.

Regarding claim 45, Nagasawa et al. in view of Gill et al. teaches the medium of claim 11. Nagasawa et al. does not but Gill et al. teaches wherein the second frequency is $1/k$ times the first frequency, where k is a positive integer. Gill et al. teaches that the two frequencies on the disc are different (column 1, line 60 to column 2, line 5). Thus, one is $1/k$ times the other. It would have been obvious to one of ordinary skill in the art at the time of the invention to use two separate frequencies. The motivation would be to easily encode the data written (column 1, line 67 to column 2, line 1).

Regarding claim 46, Nagasawa et al. in view of Gill et al. teaches the medium of claim 21. Nagasawa et al. does not but Gill et al. teaches wherein the second function is $1/n$ times the frequency of the first function, where n is a positive integer. Gill et al. teaches that the two frequencies on the disc are different (column 1, line 60 to column 2, line 5). Thus, one is $1/n$ times the other. It would have been obvious to one of ordinary skill in the art at the time of the invention to use two separate frequencies. The motivation would be to easily encode the data written (column 1, line 67 to column 2, line 1).

Allowable Subject Matter

4. Claims 17-20 and 27-31 are allowable while claims 13-16 and 24-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record, taken alone or in combination teaches the following.

Regarding claims 13-15, 19, 24-25, and 30, none of the references teach the medium wherein the second section is allotted to record address information for disc access and comprises two first sub sections using the second function and a second sub section using a third function having a frequency that is the same as the first frequency, wherein the second sub section is positioned between the first sub sections and the third function has a different phase from a phase of the first function.

Regarding claims 16 and 26, none of the references teach the method, wherein the frequency of the second function is half the frequency of the first function.

Regarding claims 17 and 27, none of the references teach a disc type recording medium, a method, and a computer readable recording medium for recording a program that executes a method for recording information by forming disc tracks, the medium comprising: at least two first sections in which the disc tracks are formed using a first function, the first function having a primary differential value; and at least one second section in which the disc tracks are formed using a second function, the second function having a primary differential value, wherein, the second section is positioned between the first sections, the difference between primary differential values of the first and

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second function at points where the first sections and the second section meet is less than 50% of the primary differential value of the first function, and the second function used in the second section has a point at which the primary differential value is 0 or does not include discontinuities.

Regarding claims 18 and 28-29, Nagasawa et al. teaches the medium wherein the first sections are used for a PLL (column 13, lines 39-41) and the first function has a single frequency. In column 3, lines 23-26, Nagasawa et al. teaches that the frequency of the wobble signal is kept constant, meaning that there is only one frequency.

Regarding claims 20 and 31 none of the references teach the given equation.

Response to Arguments

Applicant's arguments have been considered but are not persuasive. Applicant contends that Nagasawa et al. does not teach the two different frequencies. However, this was not previously claimed and is now rejected accordingly. The 112 1st paragraph and 101 rejections have been cancelled as the claims were cancelled.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parul Gupta whose telephone number is 571-272-5260. The examiner can normally be reached on Monday through Thursday, from 9:30 AM to 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHG

12/24/07

/William Korzuch/
SPE, Art Unit 2627